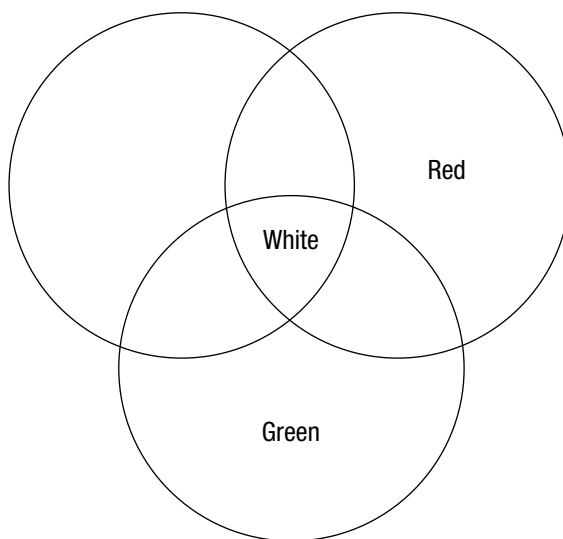


Chapter 18 The Electromagnetic Spectrum and Light**Section 18.4 Color****(pages 550–553)**

This section explains how a prism separates white light. It also discusses factors that influence the various properties of color.

Reading Strategy (page 550)

Venn Diagram As you read, label the Venn diagram for mixing primary colors of light. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

Mixing Colors of Light**Separating White Light Into Colors (page 551)**

1. What did Isaac Newton's experiments with a prism in 1666 show?

2. What happens when white light passes through a prism? _____

3. Circle the letter of the process in which white light is separated into the colors of the rainbow.

- | | |
|---------------|-----------------|
| a. reflection | b. dispersion |
| c. absorption | d. polarization |

4. How does a rainbow form? _____

Chapter 18 The Electromagnetic Spectrum and Light**The Colors of Objects (pages 551–552)**

5. List two factors that determine the color of an object seen by reflected light.

a. _____

b. _____

6. Is the following sentence true or false? I see a red car in sunlight because the color of light reaching my eyes is mostly red light.

Mixing Colors of Light (page 552)

Match the colors of light with the correct type of color.

Type of Color

_____ 7. primary colors

_____ 8. secondary colors

_____ 9. complementary colors

Colors of Light

a. Cyan, yellow, and magenta

b. Blue and yellow

c. Red, green and blue

Match each color of light to its definition.

Type of Color

_____ 10. primary colors

_____ 11. secondary colors

_____ 12. complementary colors

Definition

a. Formed when two primary colors combine

b. Combine in varying amounts to form all possible colors

c. Combine to form white light

Mixing Pigments (page 553)

13. What is a pigment? _____

14. List four natural sources of pigments.

a. _____ b. _____

c. _____ d. _____

15. The primary colors of pigments are _____, _____, and magenta.

Match the primary colors of pigment to the color they produce when combined.

Primary Colors

_____ 16. Cyan and magenta

_____ 17. Cyan and yellow

_____ 18. Yellow and magenta

Color Produced

a. green

b. red

c. blue

19. Any two colors of pigments that combine to make black pigment are _____ colors of pigments.